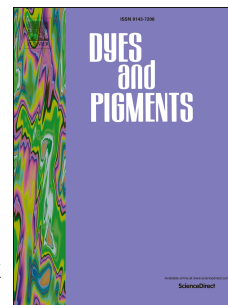


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Chlorins with (trifluoromethyl)phenyl substituents – Synthesis, lipid formulation and photodynamic activity against bacteria

Lukasz Sobotta, Justyna Sniechowska, Daniel Ziental, Jolanta Dlugaszewska, Marek J. Potrzebowski



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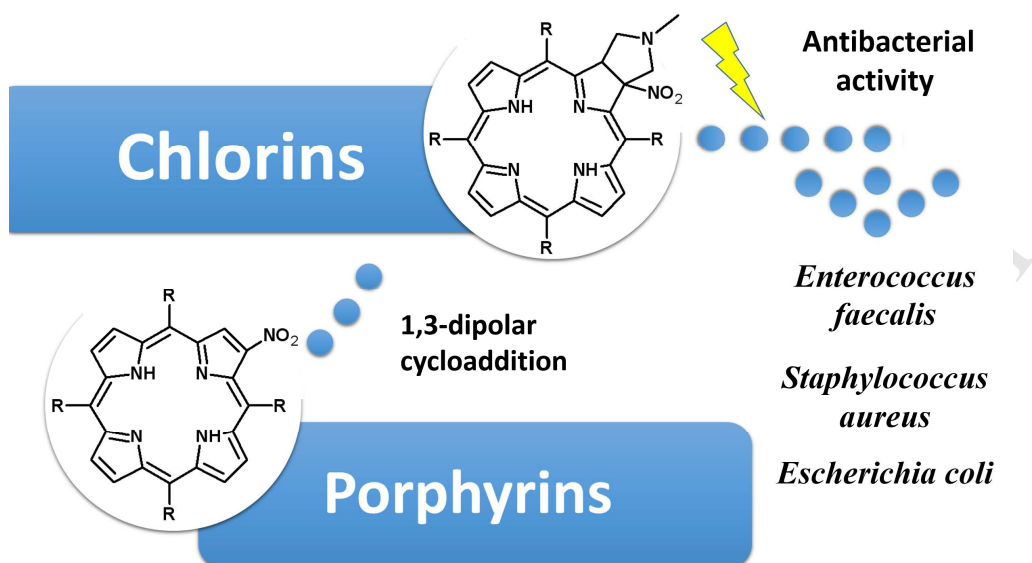
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Graphical abstract



Two chlorin derivatives bearing fluoro moieties were synthesized and their properties were evaluated. The quantum yields values of singlet oxygen formation are in the range of 0.45-0.69; fluorescence 0.20-0.31. Obtained chlorin derivatives were loaded into lipid vesicles and their photodynamic antibacterial potential was evaluated. It was noticed a log reduction of bacterial growth values for *Enterococcus faecalis* – 4.84, *Staphylococcus aureus* – 4.09 and *Escherichia coli* – 2.23.

Highlights

- Fluorinated pyrrolidine-fused chlorins with nitro group in β -position were synthesized
- Singlet oxygen formation quantum yields were noticed in the range of 0.45-0.69
- Lipid vesicles were used for the evaluation of photodynamic antibacterial potential
- The highest log reduction values were noticed for *E. faecalis* and *S. aureus*

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